

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0207581F Joint STARS				PROJECT 0003		
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
0003 JSTARS	112,699	100,453	130,488	121,699	135,816	120,994	304,369	293,410	TBD	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

There is an Air Force and Army need to provide, from airborne platforms, near-real time surveillance and targeting information on moving and stationary ground targets (growth to maritime operations), slow moving rotary and fixed wing aircraft, and rotating antennas. This information enables operational and tactical commanders to make and execute battle decisions. To meet these needs, the Air Force and Army initiated the Joint Surveillance Target Attack Radar System (Joint STARS) program with the Air Force as lead service. Joint STARS provides target information for pairing direct attack aircraft and standoff weapons against selected targets. The system is capable of being cued by other reconnaissance, surveillance, and target acquisition systems; is able to respond rapidly to worldwide contingencies; and provides surveillance and attack information in all light and near-all-weather conditions. The operational utility of the system was effectively demonstrated by the outstanding performance of two developmental aircraft in support of combat operations during Desert Storm. Joint STARS aircraft were deployed in support of Operation Joint Endeavor in Dec 95 and again from Nov to Dec 96. In Sep 96 the Defense Acquisition Board (DAB) Milestone III Review approved full rate production of a 19 E-8C program. The 93rd Air Control Wing, Robins AFB, GA, declared Joint STARS Initial Operational Capability (IOC) in Dec 97 and the system is now participating in operational and training exercises. After the Quadrennial Defense Review recommended a revision of the Joint STARS production profile the Air Force reduced Joint STARS production from 19 to 13 E-8Cs. Funding for 14th E-8C provided during FY00 President's Budget build.

(U) FY 1998 (\$ in Thousands):

- (U) \$ 9,877 Continue Block 10: TADIL-J, Joint Stars Integrated Maintenance Information System (JIMIS), and Diminishing Manufacturing Sources/Commercial Off the Shelf (DMS/COTS) Efforts
- (U) \$ 55,785 Continue Block 20: General Purpose Computer/Operator Workstation (OWS), Programmable System Processor (PSP), Pulse Compression Unit (PCU), and Signal Pre-Processor (SPP) Efforts
- (U) \$ 4,521 Continue Block 30: Improved Data Modem (IDM) and SATCOM Efforts
- (U) \$ 5,199 Initiate Radar Technology Insertion Program (RTIP) (Block 40) and Studies
- (U) \$ 9,176 Continue Support Systems and Crew Trainer Development
- (U) \$ 3,474 Continue Advanced Development (EFX Initiative, Processing Improvements)
- (U) \$ 620 Continue Program Support and Miscellaneous Efforts
- (U) \$ 24,047 Continue Test Efforts
- (U) \$112,699 Total

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(U) FY 1999 (\$ in Thousands):

- (U) \$ 4,722 Continue Block 10 (TADIL-J, JIMIS, and DMS/COTS) Efforts
- (U) \$ 21,116 Continue Block 20 (General Purpose computer/OWS/PSP/PCU/SPP) Efforts
- (U) \$ 9,870 Continue Block 30 (IDM and SATCOM) Efforts
- (U) \$ 16,814 Continue Block 40 (RTIP); Begin Data Link Study
- (U) \$ 5,271 Continue Support Systems and Crew Trainer Development
- (U) \$ 5,443 Continue Advanced Development (DII COE/GCCS Studies)
- (U) \$ 328 Continue Program Support and Miscellaneous Efforts
- (U) \$ 33,701 Continue Test Efforts
- (U) \$ 3,188 Identified as a source for SBIR
- (U) \$100,453 Total

(U) FY 2000 (\$ in Thousands):

- (U) \$ 30,720 Continue Block 10 (TADIL-J, JIMIS, and DMS COTS) Efforts
- (U) \$ 13,427 Continue Block 20 (General Purpose Computer, OWS, PSP, PCU, and SPP) Efforts
- (U) \$ 13,750 Continue Block 30 (IDM, and SATCOM) Efforts
- (U) \$ 37,195 Continue Block 40 (RTIP)
- (U) \$ 4,474 Continue Program Support and Miscellaneous Efforts
- (U) \$ 30,922 Continue Test Efforts
- (U) \$130,488 Total

(U) FY 2001 (\$ in Thousands):

- (U) \$ 884 Continue Block 10 (TADIL-J, JIMIS, and DMS COTS) Efforts
- (U) \$ 14,601 Continue Block 30 (IDM and SATCOM) Efforts
- (U) \$ 69,646 Continue Block 40 (RTIP) Efforts
- (U) \$ 2,801 Continue Program Support and Miscellaneous Efforts
- (U) \$ 33,767 Continue Test Efforts
- (U) \$121,699 Total

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(U) **B. Budget Activity Justification:**
 This program is in Budget Activity 7 - Operational System Development. Initial operational capability was achieved in Dec 97. Developmental work continues on system upgrades.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Previous President's Budget (FY1999 PB)	118,335	123,793	87,673	125,453
(U) Appropriated Value	126,189	101,793		
(U) Adjustments to Appropriated Value				
a. General Congressional Reductions	- 4,830	- 1,340		
b. Small Business Innovative Research	- 3,041			
c. Omnibus, Other Above Threshold Reprogramming	- 805			
d. Below Threshold Reprogramming	- 4,814			
(U) Adjustments to Budget Since FY1999 PB			42,815	- 3,754
(U) Current Budget Submit/FY2000 PB	112,699	100,453	130,488	121,699

(U) Significant Program Changes: FY99: \$3.188M identified as a source for SBIR. RTIP designated ACAT 1D 27 July 98. FY99 Begin RTIP Pre-EMD; added funding for RTIP and Link 16 efforts in FY00.

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<p>(U) D. <u>Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th><u>FY 1998</u></th> <th><u>FY 1999</u></th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th style="text-align: center;"><u>To Compl</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Aircraft Procurement, AF, BP10 (PE 27581F)</td> <td style="text-align: right;">320,622</td> <td style="text-align: right;">495,525</td> <td style="text-align: right;">280,265</td> <td style="text-align: right;">11,531</td> <td style="text-align: right;">12,528</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: center;">0*</td> <td style="text-align: right;">4,157,149</td> </tr> <tr> <td>(U) Modifications, BP11 (PE 27581F)</td> <td style="text-align: right;">0</td> <td style="text-align: right;">44,054</td> <td style="text-align: right;">28,558</td> <td style="text-align: right;">15,536</td> <td style="text-align: right;">16,618</td> <td style="text-align: right;">17,196</td> <td style="text-align: right;">39,812</td> <td style="text-align: right;">64,788</td> <td style="text-align: center;">TBD</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Spares, BP16 (PE 27581F)</td> <td style="text-align: right;">35,292</td> <td style="text-align: right;">67,998</td> <td style="text-align: right;">72,685</td> <td style="text-align: right;">117,890</td> <td style="text-align: right;">4,912</td> <td style="text-align: right;">7,373</td> <td style="text-align: right;">8,845</td> <td style="text-align: right;">578</td> <td style="text-align: center;">TBD</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Quantity, Joint STARS E-8C Aircraft Proc.</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> <td style="text-align: right;">1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>* SECDEF readdressing Joint STARS force structure. Note: Procurement began with 2 E-8Cs per year FY93-FY97.</p> <p>(U) E. <u>Acquisition Strategy:</u> Joint STARS Low Rate Initial Production (LRIP) was approved by the Defense Acquisition Board (DAB) in FY93. Acquisition began with the procurement of 2 E-8Cs, in FY93, and continued at 2 E-8Cs per year through FY97. Procurement continues with 1 E-8C in FY98, 2 E-8Cs in FY99, and currently concludes with 1 E-8Cs in FY00.</p> <p>(U) F. <u>Schedule Profile</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="3"><u>FY 1998</u></th> <th></th> <th colspan="3"><u>FY 1999</u></th> <th></th> <th colspan="3"><u>FY 2000</u></th> <th></th> <th colspan="3"><u>FY 2001</u></th> </tr> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>(U) Production Aircraft Deliveries</td> <td style="text-align: center;">*</td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td>(U) Organic Support Capability</td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) IOC</td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>* Denotes completed event X Denotes planned event Note: In 1Q/FY00 two Joint STARS E-8C aircraft will be delivered</p>													<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>	(U) Aircraft Procurement, AF, BP10 (PE 27581F)	320,622	495,525	280,265	11,531	12,528	0	0	0	0*	4,157,149	(U) Modifications, BP11 (PE 27581F)	0	44,054	28,558	15,536	16,618	17,196	39,812	64,788	TBD	TBD	(U) Spares, BP16 (PE 27581F)	35,292	67,998	72,685	117,890	4,912	7,373	8,845	578	TBD	TBD	(U) Quantity, Joint STARS E-8C Aircraft Proc.	1	2	1									<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	(U) Production Aircraft Deliveries	*			*					X	X				X	X	X	(U) Organic Support Capability	*																(U) IOC	*															
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 1999			
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0207581F Joint STARS				PROJECT 0003		
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U)	Block 10 (TADIL-J, JIMIS and DMS/COTS) efforts				9,877	4,722	30,720	884			
(U)	Block 20 (Gen Purpose Comp/OWS/PSP/PCU/SPP) efforts				55,785	21,116	13,427	0			
(U)	Block 30 (IDM & SATCOM) efforts				4,521	9,870	13,750	14,601			
(U)	Block 40 (RTIP) efforts				5,199	16,814	37,195	69,646			
(U)	Support Systems and Crew Trainer Development				9,176	5,271	0	0			
(U)	Advanced Development				3,474	5,443	0	0			
(U)	Program Support and Miscellaneous Efforts				620	328	4,474	2,801			
(U)	Test Efforts				24,047	33,701	30,922	33,767			
(U)	Identified as a source for SBIR				0	3,188	0	0			
TOTAL					112,699	100,453	130,488	121,699			
(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
Performing Organizations:											
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1998*</u>	Budget <u>FY 1998</u>	Budget <u>FY 1999</u>	Budget <u>FY 2000</u>	Budget <u>FY 2001</u>	Budget to Complete	Total Program
* Joint STARS RDT&E funding prior to FY98 was in PE 0604770F											
Identified as a source for SBIR						3,188					
<u>Product Development Organization</u>											
GMSD** General Purpose Computer	CPFF	May 97	135,594	135,594	46,641	55,585	20,541	12,827	0	0	135,594
GMSD SATCOM	CPFF	May 97	48,075	48,075	0	554	9,870	13,750	14,601	9,300	48,075
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Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998*	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
GMSD	CPFF	May 97	N/A	N/A	0	5,199	16,814	37,195	69,646	TBD	TBD
Advanced Dev. (RTIP) Efforts											
GMSD Other	Various	Various	N/A	N/A	2,278,636	26,694	16,011	31,320	884	TBD	TBD
Dev. Efforts											
** Grumman Melbourne Systems Division (now Northrop Grumman)											
<u>Support and Management Organizations</u>											
Joint Program Office, Program Support		Ongoing	N/A	N/A	298,572	50	0	0	0	TBD	TBD
Other Misc. Efforts		Ongoing	N/A	N/A	63,982	570	328	4,474	2,801	TBD	TBD
<u>Test and Evaluation Organizations</u>											
GMSD, E-8C Follow-On Test Support	SS/FFP/CPFF	Aug 96	150,995	150,995	27,266	10,361	19,845	15,612	17,368	60,543	150,995
GMSD, Aircraft Over & Above Tests	SS/FFP/CPFF	Aug 96	64,639	64,639	29,697	4,287	3,298	3,248	3,519	20,590	64,639
GMSD, Follow-On Test Support MILSTRIP	SS/FFP/CPFF	Aug 96	13,618	13,618	327	1,306	300	1,880	2,100	7,705	13,618
Range Support	Allotment	N/A	N/A	N/A	25,860	903	1,003	2,070	2,270	TBD	TBD
Horizons Tech. (SETA)	Time and Materials	Various	N/A	N/A	31,683	4,453	4,889	5,225	5,425	TBD	TBD
Joint Test Force Support	Allotment	N/A	N/A	N/A	19,556	1,506	1,824	2,237	2,435	TBD	TBD
Misc. Test Efforts	Various	N/A	N/A	N/A	86,075	1,231	2,542	650	650	TBD	TBD
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Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998*	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
<u>Support and Management Property</u>		N/A									
<u>Test and Evaluation Property</u>		N/A									
<u>Government Furnished Property:</u>		None									
Identified as source for SBIR							3,188				
Subtotal Product Development					2,325,277	88,032	63,236	95,092	85,131	TBD	TBD
Subtotal Support and Management					362,554	620	328	4,474	2,801	TBD	TBD
Subtotal Test and Evaluation					<u>220,464</u>	<u>24,047</u>	<u>33,701</u>	<u>30,922</u>	<u>33,767</u>	TBD	TBD
Total Project					2,908,295	112,699	100,453	130,488	121,699	TBD	TBD

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